

The Mind and Brain

by John Quashnock
How does the human brain work? The human scientific brain has far from completed its investigation of itself.

Many neurobiologists view the brain as a complex but nevertheless comprehensible system of electronic connections, quite like a computer.

They predict that memory, thought and finally consciousness itself will be explained in terms of these components that obey fundamental relations dictated by physics and chemistry. Ultimately they see man as a machine — a machine that in theory is comprehensible and predictable.

Other brain experts adopt a different view. They expect that the brain holds certain secrets that are beyond the reach of science, i.e., the brain is an organic entity that transcends the inorganic world of atoms and chemical bonds.

Beyond comprehension

They believe there is the 'breath of life' inside the brain that elevates the human being and enables him to have consciousness and free will.

David Hubel (a neurobiologist who studied here at McGill and at the Montréal Neurological Institute) said, "Depending on one's taste and convictions, the brain and the computer are in one sense either fundamentally similar or radically different."

This does not mean that brain science has sounded the retreat in the face of a seemingly insoluble problem. Researchers have acknowledged that complete comprehension may never come, and that any developing science must look at simpler questions first.

To be fair, significant progress has been made from the days of the phrenologists, those priests of the cranium who held that intelligence and personality are determined by the bumps and dents of the skull.

Indeed it is very interesting to look at what precious information about the human brain (and its function) has been found so far.

It is now known that the 1.5kg (3 lbs.) lump of grey and white matter is a complex amalgamation of some 10 to 100 billion nerve cells, called neurons, that form perhaps 100 trillion connections. (No modern day computer is even remotely near to that level of complexity).

The neuron has been identified

as the basic unit of the entire nervous system, but this 'nerve cell' looks more like an elongated tree than like the usual blob of protoplasm we ordinarily call a 'cell'. The head of the nerve cell has many hairlike projections called dendrites, and one long trunk called an axon.

The axon ranges from 0.1 mm to a metre in length, and from a few thousandths to a few hundredths of a millimetre in diameter. The axon of one neuron carries all-important electrical signals to the dendrites of another neuron.

Speeding neurons

From there the signals propagate along that neuron's axon, and we have the beginnings of a nerve impulse. The fastest signals travel up to 150 metres per second (300mph) and the slowest tread along at 1 metre per second.

The human nervous system as a whole is divided into the peripheral and central nervous systems. The peripheral system consists of (1) nerves (collections of hundreds of thousands of neuron fibers) that are distributed throughout the body and the head that carry

information to the central nervous system, called sensory neurons, as well as (2) nerves that leave the central nervous system and carry responses to various muscles and glands, called motor neurons.

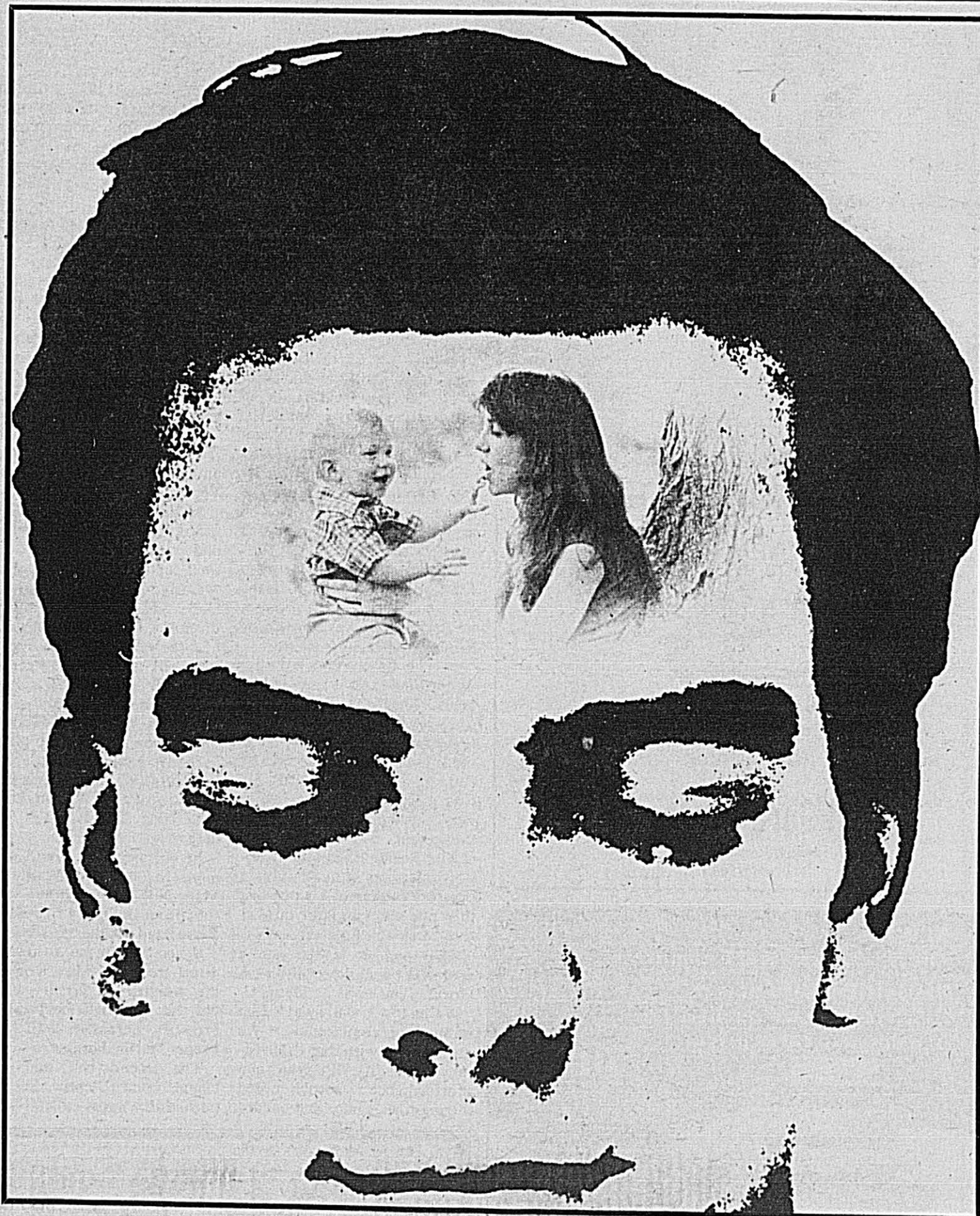
The central nervous system consists of three parts: (1) the cerebrum, (2) the brain stem, cerebellum and limbic system, and (3) the spinal cord. It is this central system that controls just about everything in the body. It is, to use some computerese, the Central Processing Unit (CPU) of the body. The spinal cord is a 45 cm

long (18 inches) collection of nerve fibers running up the spine to the brain inside the cavities of the vertebrae discs.

Unconscious reflexes

Certain basic responses are controlled by the spinal cord. Simple reflexes, such as the hammer on the kn. The brain stem is the upper part of the spinal cord, just under the brain. At this level more complex processes are controlled.

The lower part of the brain stem, called the medulla, controls breathing, blood pressure, heart rate and waste elimination.
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daily — CARL HEINE

DAILY SPORTS



Tonight is the night!

by Takane Aizeki

Soccer fans got a fine performance from the Redmen kicker squad when they tied Concordia on Friday (0-0) and overwhelmed Sherbrooke on Saturday (9-0).

When you put the Stingers and the Redmen together on one field, the classic cross-town rivalry is obvious. The two are the top teams in the QUAA. Both were undefeated. Both are in the CIAU top ten with McGill ranked fifth and Concordia fourth. Games played against each other may be the deciding ones for the league title. To top it off, they have met to decide the QUAA title in both preceding seasons. The Redmen won both, but not without difficulty.

The day was cold and windy—far from ideal for soccer. The game started slowly for McGill as most of the plays happened in the McGill half.

McGill suffered a blow when forward Dickens St. Vil left the field because of an eye problem he got when he was elbowed by Stinger keeper Steve Rose.

McGill finally broke the ice by settling down and adding pressure near the Stinger net. In one of the more heated attempts, keeper Steve Rose made an unusual kung fu-like save by flinging his legs backwards. He was nicknamed "Bruce Lee in nets" by the McGill bench for this action.

The Redmen had lots of opportunities to score, but in a pressure cooker of a game like this one was, one can miss at five yards out.

The match ended in a scoreless tie, but McGill coach Gord Gow was undaunted. "We got a point away from home," he commented. "We are satisfied with that." He admitted that St. Vil's speed and scoring punch was much missed during the game, but added

"Wednesday's game is the important one - hopefully he'll be back to play for us."

Halfback John D'Ambrosio played a beautiful game, setting up plays, and helping out in the defense. When asked why McGill had problems getting the ball in the net, he explained, "it was bad luck more than anything else. We had problems polishing up the plays."

Mike Kondro, who played the important role of play maker during the game, also acted as spokesman for the team. "We were up for the game and it showed. We played solid defense. We had a solid effort and we were away from home, a very important factor."

McGill played a very different kind of game Saturday and pulverized the Sherbrooke Vert et Or.

McGill had beaten Sherbrooke 2-0 in a previous game, and wasted no time proving their supremacy.

Early in the first half, Dickens St. Vil blasted a shot to the lower left hand corner. (He had recovered from his eye injury of the day before)

McGill continued to control the ball, but at a slower pace. Aldo Braccio had a field day, as Sherbrooke attempted to play a defensive game. Braccio's goal kick brought the Redmen their second goal as St. Vil caught the ball flying past the slack Vert defense.

The Redmen maintained their merciless onslaught. Midfielder Marc Noë rifled a bullet of a shot from the thirty-five which missed and hit the crossbar.

When McGill was awarded a direct free kick, Mike Kondro, the maestro of penalty kicks blasted the ball past Sherbrooke's defensive wall and keeper Martin Fortin.

The second half had just begun when Dickens St. Vil pushed in a cross by half-back

Chris Barrow. Not satisfied with a mere hat-trick, St. Vil headed in a corner kick executed by Marc Noë, pushing McGill's lead to 5-0.

Mike Kondro then blasted a shot at the Vert net. His effort ricocheted off the defender into the net. Kondro followed with a sizzling point scored from the twenty yard line for his hat-trick goal.

With the score 7-0, the Redmen continued to embarrass the visitors. McGill forward Scott Green crossed a pass from Chris Barrow. The perfect ball was headed in by forward Graham Butcher.

Scott Green, the McGill attacker who produced a lot of hustle for the team, struck home as he headed in the ninth for the Red and White.

At this point, Sherbrooke coach Jacques Duquette wisely benched keeper Martin Fortin and put Manuel Francois in the net.

McGill kept up the intensity. Redmen defender Guy-Marie Joseph received a yellow card for objecting a call.

It was a great match to watch. Guy Joseph, Tony Iachetta and Alastair MacDonald played a solid defensive match. They stomped on Sherbrooke's feeble attempt on the McGill net. Marc Noë and Mike Kondro's control of the midfield was instrumental in the high-scoring victory. Rookie Chris Barrow added spark to the second half with his aggressive style of play.

John Kwamya, having made several near-hit attempts on the net, said "the team to beat is Concordia". Commenting on McGill's performance against Sherbrooke, he said "I think we have our momentum now".

Wednesday at 8:15, the Redmen meet the Stingers at Molson Stadium. Billed as the match of the season, it should be a high-voltage game. Both teams are revved up for the QUAA crown.

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Hunger strike support grows

by Albert Nerenberg

Canada is beginning to take notice as Haitian exile, Henri Alphonse, enters the danger period of his hunger strike.

He has been on the hunger strike since September 21st in the Centre Multi-Ethnique at 3570 St. Urbain to alert the Canadian public and force the federal government re-assess its potentially destructive intervention in Haiti.

Alphonse, a man of fairly heavy build, has so far lost approximately 20 percent of his body weight in the 28 days of the strike.

"Each day I feel weaker," he said. "But I am more sure of the cause."

The doctor who has been monitoring Alphonse discovered high levels of acetone in his urine yesterday. Acetone is a symptom of starvation but presently Alphonse's life is not threatened.

PQ Minister, Gerard Godin, met Alphonse on Sunday and said that the Québec government supports the hunger strike cause. According to Godin, the Québec government is pressur-



ing the federal government to recognise Alphonse's demands.

Alphonse is asking for: -Official Canadian government intervention to ask for the release of political prisoners in Haiti.

-Canadian action to halt a disastrous Hydro-electric project in Haiti that is being initiated and partially funded by the Canadian government.

The General Association of Québec University Students has

sent a telegram to Prime Minister Trudeau asking for him to back the strike demands.

The major Montréal french newspapers have printed hunger strike stories. Canadian University Press is carrying it, as well.

La Société St. Jean Baptiste sent a telegram to Alphonse concerning his activities:

"La Société St. Jean Baptiste supports your just cause without reserve. She asks that the governments of Canada and Québec realise the objectives as quickly as possible," it reads.

According to Amnesty International the Haitian government currently has the worst record of human rights infractions against political opponents of any country in the world.

Prime Minister Trudeau has yet to respond to a telegramme sent by Alphonse's support group. Alphonse is protesting a planned Canadian aid project to dam Haiti's major river to provide electricity for heavy industry. According to a French Human Rights league report, if constructed, the dam will flood a major portion of Haiti's scarce arable land and displace 60,000 people from their only means of subsistence.

Stress doctor dies

by David Schulze

Dr. Hans Selye, "the father of stress", died on Sunday, October 17. Residents of the McGill ghetto will be familiar with the small brick building on Milton across the street from the campus which housed the International Institute of Stress.

Selye came to McGill from Austria in 1932 on a Rockefeller Scholarship and taught here for thirteen years before moving to l'Université de Montréal.

Dr. Selye's major achievement was to establish stress as a medical fact through the distinction he made in 1936 that stress is the non-specific response of the body to any demand. Until that time the medical community had not even considered the problem of stress in any serious way. Eventually, Selye was able to make a clear differentiation between two different kinds of stress: distress, when the body adapts to stress in a destructive way that could eventually end in death, and eustress (as in euphoria), an exhilaration that is the channelling of the stress syndrome in positive directions.

In later years Dr. Selye worked to popularize this concept of stress, making it known outside of the medical profession through books such as *Stress Without Distress* and *The Stress of Life*.

Philip Szporer, Selye's personal assistant, editor at the International Institute of Stress, and editor-in-chief of the journal *Stress*, from 1979 to 1981, said of his experience with him: "Because he was such a

rigorous individual — the demanded so much of himself — he was able to bring that out in others and he was able to move them beyond what they thought their capacities were. He was able to use the concept of stress as a stimulus to achievement."

Contacted by *The Daily* on Tuesday, Mrs. Selye offered the following words, both her husband's motto and his personal approach to stress: "Fight for your highest attainable aim, but do not put up resistance in vain."

Cruising on a sunny afternoon

by Bronwyn Chester

People must act for themselves, not wait for governments, if they want disarmament.

That according to two speakers, Tom Shroeter and Dimitri Roussopoulos speaking last Sunday at an open forum: "Perspectives and Strategies on Peace and Disarmament", organised by the periodical, *Our Generation*.

Schroeter, member of the Cruise Missile Conversion Project, spoke of his experience protesting construction of the American cruise missile guidance system by Litton Systems Canada Ltd. in Toronto.

Since last November 11 the CMCP has held several demonstrations outside Litton's gates. Non-violent civil-disobedience tactics such as blocking the entrance to the

plant and pouring blood at the plant gates have been used.

The CMCP recently distributed leaflets to Litton workers on the implications of their work for peace and the economy.

"But," said Shroeter, "leafletting is not enough." Litton workers are not unionized and are closely watched by plant security, he explained:

"With families to support and mortgages to pay, you can't expect them to easily take risks which could mean losing their jobs," he said.

To Shroeter, the anti-Cruise action is just one of many to be taken in dismantling the military industry and building a peaceful alternative. Everyone has to be involved in their own way, he said.

"It won't end with the Cruise and we are not going to get

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Women's Notes

As we slip into winter, women's groups around Montréal are gearing up for a year's worth of activities. *Le théâtre expérimental des femmes* at 320 Notre Dame est has already staged its first play for the 1982-1983 season. *Ballade pour trois baleines*, the next production, is slated for the end of this month. According to the blurb, it is a whimsical play about a female whale in a Ben-Ash restaurant. There will be two other plays presented later in the season — *Le rire de l'étrangère* in January and *La lumière blanche* in April-May.

The plays are written, directed, publicized and acted in by women.

The theatre also runs discussion groups on alternating Mondays. The next meeting on November 8th will focus on Women and Biology and the role of women in science. Karen Messing a UQAM geneticist will be the key note speaker.

...

Elsewhere in the arts and culture scene, Studio D of the National Film Board, has recently released three feature films about women. Studio D promotes female film-making ventures and women-oriented films.

Louise Drouin: *Vetirarian; Portrait of the artist as an old lady: A film about Pareskeva Clark*, a Russian born artist now living in Toronto and *The way it is*, a movie about divorce and its effects on children are available for community groups from the NFB's Sherbrooke street office. Individuals can also arrange for private screenings of the films. New releases from Studio-D and an accompanying media blitz are expected soon.

...

The Women's Y at 1355 Dorchester West is continuing its Tuesday noon-hour lecture series. Next week's Brown Bag Lunch will deal with marriage contracts, Québec divorce laws and the changes to be effected by Bill 89.

The November 2 discussion will also focus on the law and will examine the legal system's approach to sexual assault. Later on in November the Y will look at images on women in advertising on on your TV screens and women's work in the cinema. The fee is \$1.00 per session for non-members and lectures start at 12:15. Contact the YWCA for more information.

...

All women are invited to the weekly Consumer discussion groups at the Women's Information and Referral Centre, 3585 St. Urbain. Soon-to-be discussion sessions will focus on medication, child safety and credit budgeting. One highlight for penniless ghetto dwellers is the November 9th supermarket tour and price and quality comparison of different stores. The sessions are free and meet at 8:00 p.m. on Tuesdays. Women only.

...

The McGill Women's Union has also consolidated its line-up of this semester's activities. Their regular 5:00 Tuesday meetings will feature Karen Messing, the UQAM geneticist on Biology and Feminism; (the english version of her speech to *Le théâtre des femmes*); independent left-wing Irish republican, Bernadette Devlin on October 28th; the a capella group, the Quinlan sisters on the 29th; and a November 2nd participatory work-shop with Greta Nemiroff that will examine the conflicts between feminism and heterosexuality: how to accept men as individuals yet resent them as a class.

...

There are now two clinics in Montréal that dispense cervical caps. The cervical cap is a barrier method of birth control, similar to the diaphragm. However, the cap is based on suction: it fits snugly over the cervix to provide a tighter fit than the diaphragm. Although spermicidal cream is recommended for use with the cap, it is effective without jelly. It also can be inserted several hours before sex. The cap is no longer manufactured in North America and is not widely available.

The Head and Hands clinic at 2304 Old Orchard in NDG has hour-long information session on the cap at 2:00 p.m. Thursdays. Appointments can then be made for Tuesday morning fitting sessions. The waiting list runs for 2-3 weeks. The cap costs \$15. Clinic workers emphasize that life-style is an important consideration for the cervical cap and that the device should be tested several times in different positions with each sexual partner to be safe.

Centre de santé du femmes du quartier at 16 St. Joseph street East also fits women for cervical caps. They require appointments for information and fitting sessions which are held Tuesday afternoons. Appointments are now being taken for mid-December. The cost is \$10.

Suzy Goldenberg

Founded in 1911

THE MCGILL DAILY

While it is true that most McGill students are members of the bourgeois anglophone community in Québec, it does not follow necessarily that they are not, potentially, progressive.
McGill Daily Stylebook, 1972

McGill Book Fair Unfair

There is something fundamentally wrong with the way the McGill Book Fair operates.

The annual Book Fair starts today at 9 am. They will be open till 9 pm today and from 9 till 4 tomorrow afternoon.

The second hand book sale is organised by the Alumni Society and Women Associates of McGill, both under the umbrella of the Graduate Society. Funds raised from the sale will provide some of the capital needed for university scholarship and bursary funds. The books have been donated by people who want to help students.

The scholarship money is undoubtedly an assistance to students, but the book sale should serve another purpose. People don't donate the books just to help the scholarship funds. It is generally assumed that book fair is a means of providing inexpensive second hand texts to students.

But students don't get the chance to buy most of the books that the fair sells. Mercenary second hand book merchants flock to the book fair like mosquitos to a blood bank. They can be easily detected queuing up outside the doors before the the book fair begins. They rush into the hall at opening time and grab books by the boxload.

At least one Montréal second hand bookstore owner engages "friends" to assist him in the grabbing of books. Books are placed indiscriminately in these boxes, which are then sorted through by the dealers at their leisure. They replace the books they don't want.

Most students only get the second pickings; most of the books are bought up by the dealers before McGill students and staff attend the book fair.

The books that the book store owners buy are then put on their shelves and sold for a tidy profit. For the hard work of being there first the owners make a killing.

They make the profit at our expense. First they deprive us of many of the best books at the fair, and then they make profits from those same books by selling them to us at their second hand book stores. Students comprise a very large segment of most second hand book stores clientele.

The book store dealers' defence is that everybody does it, and that, anyway, they provide money for scholarships by buying the books. But this is clearly an inconsistent position. They don't buy just any books; they buy the books that students want to buy, because those are the books they will be able to sell back to them. We can only presume that if the dealers didn't buy them students would.

What makes matters worse this year is that the Book Fair has contracted from its previous size. Last year the sale lasted for three days, this year it has been cut to two. According to Anna Talati, who is working on the Book Fair, donations have decreased this year.

This year, with fewer books available, it is clear that some sort of action should have been taken to prevent the dealers from seizing all the books before students and staff have had a chance to attend the fair.

The organisers have made no such attempts, and, probably, most of the books will be gone by the time you read this. This is the time, however, to call for preventative action for future booksales.

Some measures should be adopted to prevent dealers and store owners from scooping the rest of us at the book fair. One possibility would be to demand a McGill staff or student ID at the entrance to the sale.

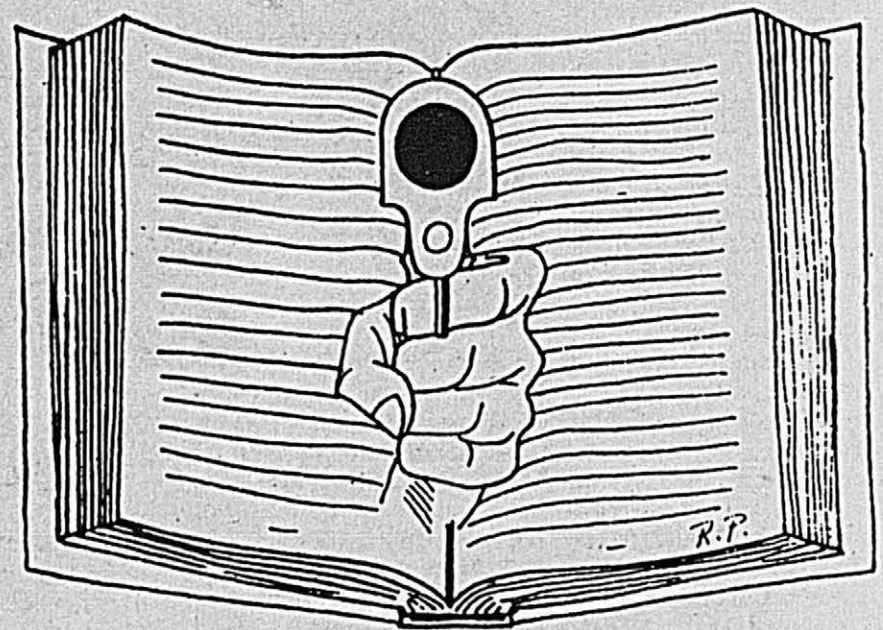
The book dealers, however, would probably manage to lay their hands on McGill IDs, or find "friends" with IDs. Furthermore, it is unfair to prevent individual members of the general public who only wish to come and buy a few books from attending.

It would not be impossible, however, to introduce some kind of regulation preventing dealers from attending the fair. It's not hard to spot them, they're usually the people trying to buy hundreds and hundreds of books at 9:30 am on the first day of the sale. By stating that no dealers should be allowed in the book fair we could at least ensure that they have more trouble in buying huge numbers of books immediately.

Since the book fair is supposedly organised for the benefit of McGill students, it would also make a lot of sense to restrict entrance on the first day of the fair to McGill students and staff with a specific limit placed on the number of books that each person can buy.

Until some measures are adopted to prevent the abuse of bookstore owners raiding the McGill Bookfair, the sale will remain an incomplete service to McGill students.

Richard Flint
Colin Tomlins
Greer Nicholson
Suzy Goldenberg



Letters

Albania — Take a hike today
With regard to your report entitled "Socialist Economic Alternatives" and the view of the "Mouvement Socialiste", that there is no real socialist model in the world today, perhaps the "mouvement" "overlooked" the People's Socialist Republic of Albania.

Facts are however stubborn and in spite of the attempts of some to ignore or denigrate the reality of life today in socialist Albania, I thought that your readers might be impressed with a few facts. This genuine socialist country (unlike the pseudo-socialist models of the Soviet Union, China, Yugoslavia, Cuba etc.) has no relations with either of the two superpowers, the U.S. and the Soviet Union, nor is it part of any aggressive military alliance such as NATO or the Warsaw Pact and has never engaged in any wars of aggression.

Unlike Canada and many other countries which are facing a profound economic crisis, Albania and its people suffer no crises of any kind. There is no unemployment, no inflation, no internal or external debts of any kind, no soaring prices and indeed the prices in Albania have been lowered for the 14th time since its liberation in 1944. Since there

are no exploiting classes of any kind, nor foreign domination, the Albanian people enjoy full democratic rights. The economy of Albania is stable and flourishing without any foreign investment or credits, fully relying on its own resources but trading with other nations (except the two superpowers and fascist regimes) on the basis of equality, mutual respect and non-interference in one another's internal affairs.

I warmly invite all those who are interested in learning more about the reality of life today in Socialist Albania to exchange views with recent visitors to Albania this summer to participate in a programme organised by the Canada-Albania Friendship Association — 7:30 p.m., RM. D-440, Pavillon Marie-Victorin, Université de Montréal on Wednesday, October 20th.

those who wish to obtain more information about tours to Albania may also write to the Association at P.O. Box 654, St. R., Montréal, Québec or visit our exposition at Alexis Nihon Plaza lobby — November 2, 3, and 6th.

V. Anvari
President

Canada-Albania Friendship Association

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Melzack: pathways of pain

Ry Jeremy Quastel
 Ronald Melzack is a McGill professor in the Department of Psychology.

Daily: What exactly is your field of research?

Melzack: We are researching pain and analgesia (the blocking of pain) and studying the neural mechanisms involved in perceiving pain.

If you are interested in pain then you naturally get involved in how to stop it. I've been looking at many ways of stopping it.

Start with the pain mechanisms themselves. It used to be thought that there was only one pathway in the spinal cord that carried information about pain. Now we know that there are at least six pathways. These have to be divided up into two systems of three pathways each.

One of these systems carries information about the pain that is produced by injury — short term pain. For example, the minute you step on a tack or burn your finger, that information is carried by the pathways that conduct information very rapidly to the brain to tell it where injury has occurred and how extensive the injury is.

The other system of three pathways carries information about injury that has already occurred — long term pain. The brain wants to know what the status of the injured area is.

Daily: Do the pathways of the two systems work in much the same manner?

Melzack: No. The instant, short term pain, is carried much faster. That is important so you can stop yourself from doing further injury.

neurons but with fewer synapses. The other system has lots of synapses so it can be influenced by many things including drugs.

Daily: Why do these systems have three pathways each?

Melzack: Every one of these pathways carries information about pain, touch, cold, and position. Since the brain always needs information about many things it can tap into one of these pathways to find out about pain and into another to find out about where your body is in space.

Because the pathways carry what is known as multimodal information, it is a good idea to have multiple pathways. People have proposed that if the nervous system gets damaged one wants a duplication of systems. I don't believe that. I think that there is simply a redundant system.

Daily: If the nervous system does get damaged will other pathways take over?

Melzack: Yes, but that can be tragic. We may feel pain that we don't want or need — phantom limb pain is an example. To stop this, one would like to block the pathway. But there are so many of these pathways that one would have to block the pain from everywhere. Even when you do that you still end up with pain. The nervous system begins to behave very abnormally, and sends signals of a kind that the brain interprets as pain.

Daily: What other types of research are you doing?

Melzack: We are also looking into the problem of developing tolerance to morphine. I am doing this research with Frances Abbott, who is a post-

doctoral fellow working with me. The rapid, short term pain. One dips the rats tail into hot water and measures how quickly it whips it out. This is called a tail flick test.

What we did was to develop a test that would be more like human pain but would be morally reasonable. We call it the formalin test. You inject a little bit of formalin under the skin of an animal's paw. We have done it to ourselves. It feels like a bee sting and lasts 1-2 hours then goes away. When you use that kind of pain test you find that there is very little or no development of tolerance to morphine.

Daily: How would one test the analgesic effect in a rat?

Melzack: When you inject the formalin under the skin the first thing the animal does is to bite or lick its paw. We give that a rating of three points. Then it holds its paw in the air and we rate that two points. It gingerly touches its paw to the ground — one point. When it walks normally we give that a 0.

We then add up the numbers and obtain a curve over time. If you give morphine you find that as the time curve goes down, the animal returns to normal faster.

Another thing that we have been studying is areas in the brain that produce analgesia when you electrically stimulate them. It is known that there is an area that is roughly between the ears, in the brainstem, and when you electrically stimulate this area you produce analgesia. This has been done both in animals and in humans. No pain is felt at all.

Daily: Of either type?

Melzack: That's right. But you need a lot more electrical stimulation to control the short term pain than you do the long term pain.

We have also been looking at the effects of ice massages on pain. It has long been known that if you rub ice cubes over a painful area you are able to show that the pain actually decreases. What has not been known for a long time, though, is that the ice cubes can be just as effective as acupuncture.

Daily: Is that working as a counter-irritant?

Melzack: Yes, but what does a counter-irritant mean? It means using one stimulus that is not very painful to take away a stimulus that is very painful. Or you may use a short term pain to take away a long term, chronic pain.

Daily: Is that how acupuncture works?

Melzack: That's right. You stick an acupuncture needle in. That does not hurt, but then you twirl it and that hurts.



You could also put electrical pulses through your acupuncture needle. These produce a deep, aching pain that will take away chronic pain, such as back pain or a headache. When you stimulate intensely, you activate that area between the ears which sends messages down the spinal cord to 'close the gate'. It is that area between the ears that produces analgesia.

Daily: So acupuncture really does no more than an ice cube or a mustard plaster?

Melzack: There is no evidence that it does. People are now using a small device known as a *transcutaneous electrical nerve stimulator* which electrically stimulates a painful area. This will often take pain away.

Daily: How does a counter-irritant actually block the major pain?

Melzack: There seems to be a mechanism in the body to control pain. If we had too much pain, we would freeze, so it makes good evolutionary sense that there would develop a system to put a ceiling on pain. When you have pain you activate a mechanism that acts like a governor on a steam engine.

Daily: Does the counter-irritant work as a distraction at all?

Melzack: No, it's not psychological. The mechanism actually stops pain. This is where endorphins and

encephalins come into play. These are substances like morphine that the body itself produces. When you have pain or stress there is a release of these opiate-like substances and that activates the mechanism to stop pain impulses from going to the brain.

Finally, I have been very interested in the language people use to describe pain and I have developed a questionnaire called the McGill Pain Questionnaire.

It consists of twenty sets of words that people use to describe pain such as hot, searing and burning, or fluttering, flickering and palpitating. People choose the words that best describe their pain. What is amazing is that people use the same words to describe pain caused by the same thing.

Daily: Is there a whole different set of words for long term and short term pain?

Melzack: Very different. You give the questionnaire out to a lot of people suffering from ten different kinds of pain — say a group of people with phantom limb pain, women with labour pain, people with dental pain, and so on.

If you feed their questionnaires into a computer that has already been given a lot of information then the computer will correctly diagnose the cause of the pain 77% of the time. □

What is amazing is that people use the same words (for) the same thing.

Daily: What is the importance of long term pain?

Melzack: It makes you rest and allows the body to recuperate. The recuperation process is terribly important here.

It turns out that the chemistry of these two systems is different. You need a lot more morphine to stop feeling that rapid, short term pain, than you need to stop feeling the ongoing, continuous pain from already injured tissue. That makes sense because the pathways that carry messages very rapidly have fewer synapses or places where the morphine can act.

Daily: Do these pathways have longer neurons?

Melzack: Yes, they have longer

neurons but with fewer synapses. The other system has lots of synapses so it can be influenced by many things including drugs.

The exciting thing that she has found is that rats develop tolerance to morphine very slowly. The old story said that when one takes morphine one keeps needing more and more to get the same level of analgesia. People have recently been observing cancer patients who take morphine every day for their pain and there is actually very little development of tolerance.

The question we asked ourselves was why this discrepancy exists between the observations with rats and those with humans. What we realized is that the kind of test that one does on rats is a test for

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The Mind and Brain

The ultimate in mind extenders



by Noubar Afeyan
and Richard Gold

Understanding how the brain functions has long been one of the greatest challenges to mankind. Psychologists, neurologists, physiologists and now computer experts, are working towards the challenges of understanding the brain.

Computer simulation, the newest method of studying the brain, is similar to psychology in that it is not concerned with the brain directly but rather with behavior.

Artificial Intelligence (AI) is the simulation of intelligent human behavior using a computer. The concept of human intelligence is very difficult to define with very little consensus over a single definition. A good workable definition regards human intelligence as the ability to learn and understand from experience as well as to respond successfully to new situations.

AI has evolved directly from the field of cybernetics, a branch of science dealing with the comparative study of the operations of computers and the human nervous system.

The goal of cybernetics is to model human behavior by simulating the human brain. Artificial Intelligence differs in that it is simply concerned with the simulation of human intelligence — whether the computer functions like the brain is of little concern.

In cybernetics, one compares networks of brain gates (neurons) to computer gates (the decision making units of the computer). In AI comparisons are made between data and human knowledge, program operation and decision making and data acquisition and learning. As elementary as they may seem, these analogies are the foundations on which AI is built.

Research in the field of AI is being carried out on three fronts: natural language understanding, machine perception (visual) and game playing (checkers, chess, backgammon, etc.)

The most complicated and as yet most enigmatic of the three areas is natural language understanding. According to David Waltz of the University of

Illinois's AI Lab in a recent *Scientific American* article, "A successful program (in language understanding) would simulate processes that seem to be close to the essence of human thought."

The earliest attempts in this field were machines that would literally look up words in a dictionary. These efforts were less than successful.

An attempt to translate the sentence: "The spirit is willing but the flesh is weak" into Russian and back, resulted in the following: "The vodka is strong but the meat is rotten."

Recent progress in this field has been accomplished through the use of "diagrams of conceptual dependency", a representation of the interaction between different elements of a sentence.

Visual perception deals with the recognition of images by a machine. Work in this field has led to such developments as reading machines for the blind and video cameras capable of directing the action of robots.

Godfried Toussaint of McGill's department of Computer Science and Ronald Poulsen of Pathology, are presently working on the problem of automated recognition of cervical cancer cells from slides. At the present time this must be done manually.

Research done on computerised game playing has led to a deeper understanding of the process of human learning.

Computers endowed with the ability to learn have resulted in programs capable of outplaying their creators.

Arthur Samuels of I.B.M. devised such a program for playing checkers. The program was provided with the basic rules of the game, a mechanism for evaluating its position on the board and the ability to alter this mechanism as it gained experience.

"At the beginning he kept on beating it (the program), but eventually it always beat him," said Toussaint.

Current research in advancing the level of games is proceeding in two opposing directions. One view is that we should take advantage of the great speed of computers by analysing as many alternatives as possible. In the jargon of the field this is called "brute force".

Other experts are of the opinion that the situation should be analysed and options chosen according to some predefined "rules of thumb." This greatly reduces the total number of steps needed, since only the most promising options are considered. This approach is called a "heuristic search".

Both systems offer certain advantages, although the heuristic approach seems to parallel human intelligence more closely and is therefore more promising.

"Probably the most telling criticism of current work in artificial intelligence is that it has not yet been successful in modeling what is called common sense," wrote Waltz.

Computers are as yet unable to link perception, reasoning and action, all vital parts of human intelligence, or "common sense".

"Can they (computers) recognise good from bad, beauty from ugliness? Can they have human judgement?" ask-

ed Toussaint. "I used to think very very strongly that it would never be possible."

If such computers are developed, will they dominate all human activity? Not necessarily.

"If we externalise these reasoning powers, it is going to catapult us to always be on top and make us evolve much faster," said Toussaint. For example the use of cars and airplanes to increase our mobility has been a major protagonist in human development.

However we should be cautious in letting computers influence our decision making process. "If we let it we can get in trouble. It just depends on how much freedom we give (computers) instead of listening to our own minds," said Toussaint.

A "thinking" computer, one that uses common sense, is still far in the future.

"I don't think we can come close to a thinking computer at the present time," said Toussaint.

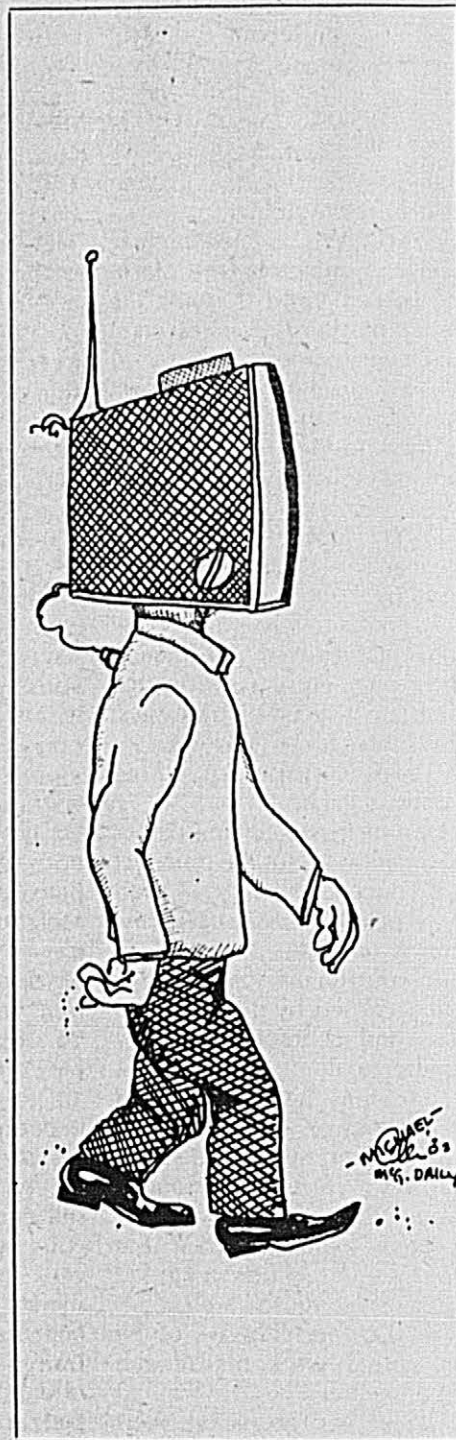
The leading nation in AI research is Japan, where the government has spent over 400 million dollars, to build such a "super-computer". They hope to achieve this goal by the year 1990.

In the U.S. this enthusiasm has not been paralleled. AI research has generally been restricted to academic circles. Things are changing.

"In the past AI was considered so esoteric no one put in any adds for AI graduates. Now you see lots of them," said Toussaint.

The Japanese target date seems so close as to be overly optimistic. Such optimism is not new. Chess programs were predicted to beat the masters by the mid-sixties. Current projections have moved the date to the mid-nineties.

Computer programs can play games, process visual information and understand some natural language. The next step is simulating common sense. □



CATs and other

by Heather Penik

Scientists and clinicians at the Montréal Neurological Institute (MNI) pool their grey matter to solve nature's most baffling mystery, the human brain.

The staff of 700 work in three major areas: cerebrovascular disorders, neuromuscular disease and epilepsy.

William Fiendel, director of the MNI, said the work going on in the MNI is, "very exciting and there are enormous unexplored areas in neurology."

Fiendel is known for his expertise in the surgical treatment of epilepsy. Due largely to him, MNI is the first Canadian medical centre to develop and install both Positron Emission Tomography (PET) and CAT scanners.

Fiendel firmly believes in the great importance of quickly integrating and making use of new technology.

World renowned

"One of the reasons that patients from all over the world come to the MNI is that over the years we've been

able to develop diagnostic techniques such as the PET scan and CAT scan. All our experts here are concentrating on applying their expertise and these techniques to help individual patients," he said.

"Some of the surgical operations we've developed here since Dr. Penfield's time are rather special. We perform more surgical operations for epilepsy here than the whole United States. We do the best type of surgery we can and then nurse the patient so that he recovers from it.

"After surgery, we perform tests to make sure that the operation has achieved what we hoped it would and have a long follow up on these patients — we try to follow them indefinitely.

"All of this looks as if it is a major project and indeed it is, but in the course of studying one patient we learn a little bit more about epilepsy itself. That means that our methods will improve over the years and the next patient that comes along will have the benefit of that."

The Mind and Brain

Living in the real world

by Robert Pless

Since very early in the history of man, it was deviant behaviour that attracted the greatest attention.

The mentally ill were thought to be suffering anything from the wrath of gods to demonic possession. Treatment usually consisted of locking the afflicted individuals up in asylums, though stone age man practised crude surgical techniques to enable the "evil spirits" to escape from the body.

Mistreatment of the mentally ill continued until late in the 18th century when Philippe Pinel proposed to treat them as sick individuals rather than as animals. It was at this time that abnormal behaviour began to be regarded as just that — a deviation from the norm. Soon thereafter, the systematic study of the human mind reached new priorities in science, with normal behaviour also being studied.

Today, although there is still much to be learned about the workings of the human brain and mind, psychology is playing a crucial part in society. Within the last century, research has investigated many aspects of human nature, from the effects of stress on the developing fetus, to the biochemical basis for Alzheimer's disease (senility).

And research goes on. Where is this leading us? What effects do these studies on the average 'man/woman of the street' and the world in which he/she lives?

A proper area to begin with is the media. Society has not been the same since the advent of television. It influences our lives and customs in many subtle and not so subtle ways. Aggression caused by television's influence on young people today is not to be taken lightly.

Studies with children who watched an adult beat up an inflatable doll showed that they were more inclined to be aggressive in subsequent tests than those children who watched an adult

behave neutrally with the same doll.

In another study children were shown one of two TV segments. Half were shown a violent sequence (one chase, two fistfights, two shootings and one knifing) while the other half watched an exciting sports event. When later tested, the children who saw the violent episode displayed more aggressiveness.

A more subtle way in which the media affects us is through certain stereotyped shows and commercials. It seems that our laundry is never white enough, our pain relievers never as effective as the brand displayed and our wardrobe never up to date. We are also too fat.

Television sticks with us; how many times do we go out and buy the brands advertised or try to make ourselves over to look just a bit like actors and models on display? Probably a lot more often than we realise. Some marketing executives are chewing off their fingers hoping that we do. The same applies to magazine ads.

On another extreme, universities are considering implementing standardised tests to screen prospective students. This is certainly the case in the United States, where the Scholastic Aptitude Test (SAT) is given to all candidates as a requirement in the application process.

Though not specifically a psychological test, this nevertheless indicates a trend towards a quicker and less personal method of evaluating learning: the individual is reduced to a set of readily comparable scores. In certain boards of education, aptitude tests are administered to first year high school students.

On the corporate level, companies are hiring psychologists to help employees cope with the higher and higher degrees of stress that big business causes. As well, the whole company may now come under the scrutiny of organizational psychologists, whose job it is to evaluate and improve the smooth running of the corporate machinery.

PETs at the Neuro

Neuropharmacology

"Our laboratory has two aspects of research," said Allan Sherwin, director of the Neuropharmacology Department at the MNI. "One is studying drug levels in the plasma of patients with epilepsy and the other is studying the tissue that is removed during the neurosurgical treatment of epilepsy."

By analyzing the epileptic foci tissue, Sherwin and his research group have found for the first time that there is a decreased number of receptor sites as well as abnormalities in several enzymes.

"We feel this work will help the patients themselves. We might get some idea of the future course of the patient by measuring these receptor sites. This work might also tell scientists what types of drugs to use in the future."

Neuro-ophthalmology

"The eye is really just a specialized part of the brain that nature put on the outside to let the light in," said Trevor

Kirkham, director of the MNI's neuro-ophthalmology department.

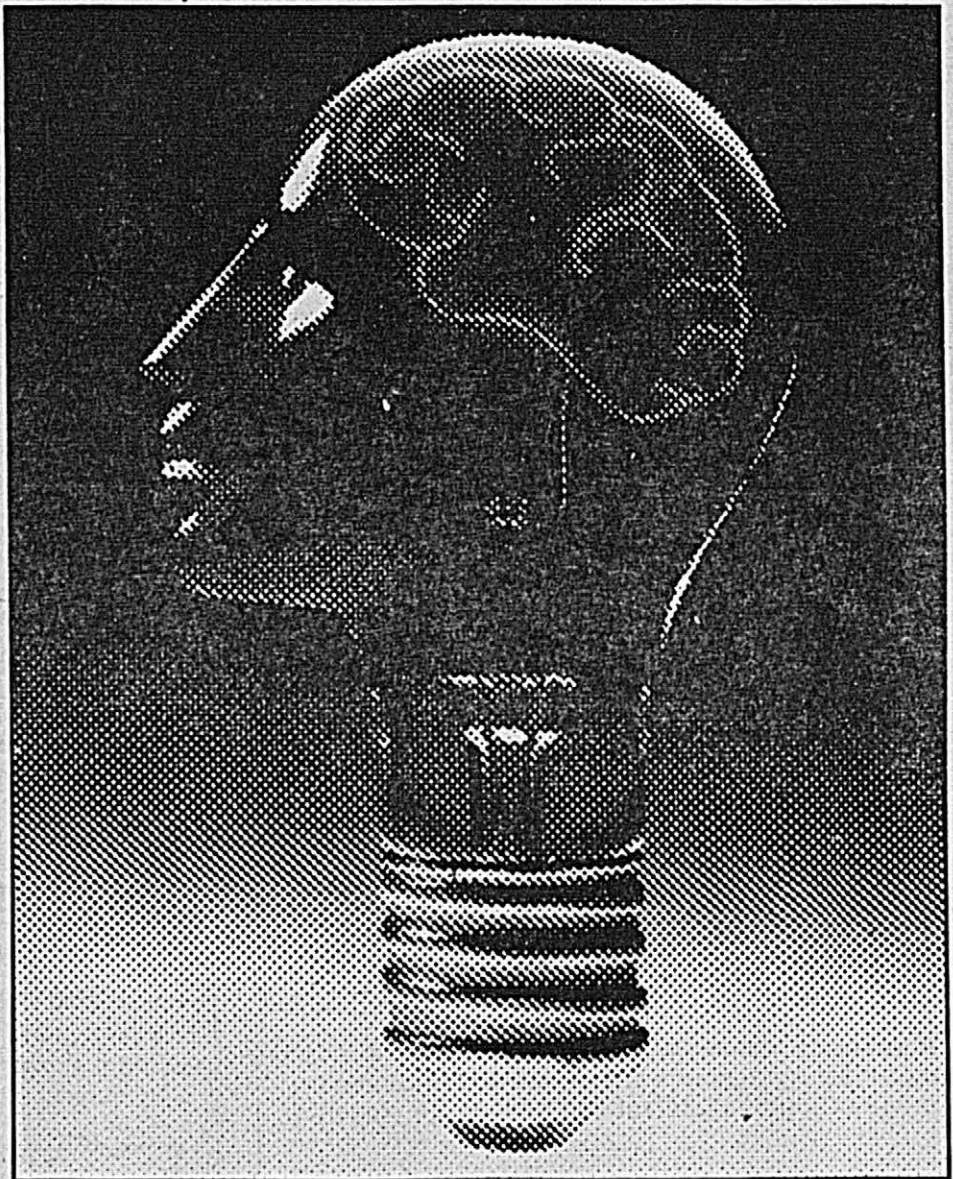
The main thrust of Kirkham's present research is towards curing multiple sclerosis (MS), a disease which despite millions of dollars of research has no cure and no known cause.

"We are experimenting with electroretinography (a measurement of the electrical activity produced in the retina) and visually evoked potentials (a measurement of the activity in the brain produced by light stimulation of the retina) as a way of diagnosing MS," said Kirkham.

"We also hope that through the information we obtain in these tests, we will come to know a little more about how this disease affects the nervous system."

Neuroradiology

Roméo Ethier's MNI Neuroradiology Department is currently investigating various conditions of the spine using high resolution computed tomography (CT). CT works by having an X-ray tube



A method of stress reduction is fast catching world-wide attention: biofeedback. This technique involves linking the patient's brainwaves to an auditory tone (this is also done with heart rate and blood pressure).

By concentrating on reducing the frequency of the tone, a patient attempts to relax (or lower his heart rate and blood pressure). After several sessions, it becomes easier to deal with stress by concentrating on relaxation techniques, even without the auditory feedback.

Psychological testing is today fairly widespread in our penal system. A murderer is not locked up until the court (represented by several psychologists) has ascertained that the accused is mentally competent to stand trial. This raises interesting questions.

The definition of insanity is a legal one: was the accused aware of the consequences of his actions? Mental illness is a nebulous classification, there are no die-hard rules as yet to accurately determine the state of someone's mind.

It would be easy to say that all murderers are crazy, but there are situations where this may not be the case, as in self-defense. However, though it may be fair to send the 'insane' killers (those that were truly unaware of what they were doing and are truly sick) to a hospital, locking up the rest in our penal system is not the best answer either.

Slowly, very slowly, we are coming to realise that locking an individual up for several years is not the best reform technique. In a classic study, normal, healthy university students were placed in a mock prison situation. Some were arbitrarily chosen as 'guards' and others as 'prisoners'.

After only a few days, the students became so wrapped up in their roles that the mock situation turned into

something quite real. The guards were needlessly beating the prisoners, the prisoners were taunting the guards and plotting escape. The experiment was cut off early.

One student's observed after the three days, "I made sure I was one of the guards on the yard, because this was my first chance for the type of manipulative power that I really like."

The study raised many questions concerning the effectiveness of our penal system (real prisons cannot be ended like an experiment). Unfortunately, change is slow; it's easier to ignore a study than to find the necessary funds to effect an improvement.

Finally, there is another aspect of psychology that many overlook: the mental health services. A growing branch of psychology is researching normal human social behaviour in the hope of improving, for instance, family relationships — what is conducive to a child's optimum home environment, how best to compromise during marital arguments in order to avoid divorce, etc.

In the field of therapy, there are a growing number of community mental health centres that makes counselling for personal problems more accessible, less costly and less stigmatic than the label "I'm seeing a psychiatrist."

Modern psychology, armed with new knowledge from various fields, from social studies to physiology to neurochemistry, is truly making leaps and bounds in the treatment of mental disorders. (Witness the advent of drugs such as Lithium and the tri-cyclic antidepressants for the control of chronic depression.) We are also obtaining a better understanding of how we, as humans, interact, thus opening doors to a better world.

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The Mind and Brain

The PET scanner is a pretty good looking horse

continued from page 7

emit radiation through a slice of tissue and measuring the degrees of X-ray absorption through special detectors.

The degrees of X-ray absorption are calculated by computer to form an image which the neurologist can study.

Ethier's method is particularly effective since it can be used directly on the patient to detect ruptured discs or tumours in the spinal column.

"We are desperately in need of rational planning support from the (Québec) Ministry of Social Affairs to maintain our neurosciences in the forefront of these modern tools and in the treatment of Québec Citizens who otherwise will be forced to go elsewhere for adequate medical care."

New chemistry tool

Researchers around the world are using Positron Emission Tomography (PET) to in-

vestigate everything from schizophrenia to metabolic changes caused by aging. PET is a revolutionary new tool for displaying the actual chemistry within the brain.

The MNI leads Canada in PET technology and is the first institute in Canada to integrate it into their research work. Feindel, with his PET team of Mirko Diksic and Ernst Meyer, are using PET to study the brains of patients with epilepsy, strokes and brain tumours.

Feindel said of PET, "Now for the first time, we're looking at the actual chemistry of the brain... The CAT(a system which produces cross sectional pictures of the brain) gives you a picture of the building; the PET gives you a picture of what's going on inside the building — the people, the plumbing and the electricity."

During the past seven years the MNI PET collaborators have studied over 1000 patients using this technology and the hard work is beginning to pay off. Diksic has now developed a method for radioactively labelling BCNU, an anti cancer drug,

and using PET, the MNI was able to show that the drug concentrates in tumour cells and not significantly in healthy cells.

Fantastic scans

Says Feindel, "The PET scanner is fantastic because it gives us an immediate way of testing whether the drug is getting into the tumour and whether it's having any effect or not... It could open up that whole field of how drugs affect different tissues in the body because we're really studying the patient in his own chemical laboratory."

"The whole chemistry of the brain is wide open now to investigation," said Feindel.

The cost of integrating PET is considerable but not as much as the cost of disease.

Said Feindel, "Take a young man in his teens with epilepsy. If he can't be treated properly and can't work, he will cost the economy one million dollars (by a 1981 Washington Report)."

"The same is true for brain tumour patients who may be dead in six months. If you're a better the PET scanner is a pretty good looking horse." □

McGILL ATHLETICS FACILITIES RECREATIONAL TIMES

The following protected recreational times are available for use by all students and gymnasium members. As well, there are many other periods in the gymnasium and pools, and on the playing fields that may be used on a week to week basis depending on class and activity schedules. For these times consult the schedules posted in the Currie Gymnasium.

ARENA: McConnell Winter Stadium

Recreational

Skating:

Monday 12:00 - 1:20 p.m.

Thursday 12:00 - 1:45 p.m.

Friday 12:00 - 1:45 p.m.

Students and Gym members may bring guests - \$2.00 each

Shinny Hockey:

Tuesday 12:00 - 1:45 p.m.

Wednesday 12:00 - 1:45 p.m.

Sticks, gloves, elbow pads, pucks, and helmets only

GYMNASIA: Sir Arthur Currie Gymnasium

Recreational

Basketball:

Friday 2:00 - 5:00 p.m., Gym 1 & 2

Recreational

Gymnastics:

Tuesday 5:00 - 7:00 p.m., Aux. Gym

Recreational

Badminton:

Friday 8:00 - 10:00 p.m., Gym 1 & 2

* Starts October 29

Weight Training:

Building hours except during special classes and exams - Turner Bone Room

Table Tennis:

Limited hours depending on the instructional schedule - Karate Room

POOLS:

Currie Pool:

Sessional 9:00 a.m. - 4:30 p.m. (if not in use with classes)

Mon.-Fri. 6:15 p.m. - 7:00 p.m.

Mon.-Wed. 9:30 p.m. - 10:45 p.m.

Sat. 9:00 a.m. - 5:45 p.m. (if no special events)

Weston Pool:

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Mon.-Thurs. 9:00 p.m. - 9:30 p.m.

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The Mind and Brain

Cognition and the cortex...

continued from page 1

tion. The brain stem also contains the reticular formation — a meshwork of small neurons that is responsible for the 'arousing' of the cerebral cortex. This reticular formation is also responsible for the sleep-wake cycle.

Finally, if we move up to the highest part of the brain stem (which is located well inside the main body of the brain), more complex reactions with the environment are regulated.

Hunger and sex

Hunger, thirst, sexual arousal, aggression and emotions are determined at this level. Here the thalamus acts as a relay of information — integrating and transferring the information received from the outside environment to eventually produce a response.

A series of organs just above the thalamus, and right in the very heart of the brain form the limbic system, another main component of the central nervous system.

At this level, a variety of emotional and psychological states are controlled. Emotions like anxiety, stress, relaxation and satisfaction, or physiological responses such as sweating and blushing, are all determined here. It is also thought that a special organ of the limbic system, the hippocampus, is involved in memory, especially of the long-term type.

Fistful of thought

The cerebellum, located under the main body of the brain, just in back of the brain stem, is a round organ about two thirds the size of a fist. It is particularly important for the coordination of movements.

Walking, sitting and standing are turned into smooth and well-balanced operation through the work of the cerebellum. This organ is also important in the regulation of certain automatic processes mentioned earlier.

We then reach the cerebrum. The cerebrum is the highest integrating center of all — the most complex entity in the world we know. Conscious action, thought, memory, perception, skills and behavior are controlled by this organ.

The increase in size of the cerebrum in relation to the size of other parts of the nervous system and of the body as a whole that is in direct correlation with increased learning ability. The human being has, in this context, the largest cerebrum, and hence is the most intelligent of animals.

The cerebral cortex is the mass of convoluted tissue that is the outer layer of the cerebrum. This cortex is made up of millions of neurons arranged in layers only six cells deep.

Across the cortex, from ear to ear, is a band that controls the impulses of sensory and motor neurons throughout the body. Each area of cortex deals with one particular part of the body.

In the cerebrum, the left half controls the right side of the body, and the right half the left side, because the sensory and motor neurons cross over in the brain.

The role of the cerebrum in direct sensory and motor control of the entire body is, of course, very important, but only 25 percent of the available cortex is used for this purpose.

Images and memory

The remaining 75 percent of the space is devoted to association of all input and output of the brain. This association means we are able to work with images and sounds, we can compare past with present experiences, or we can make decisions in difficult situations.

In these 'association areas' abstract concepts such as thought, consciousness and creativity are first formulated.

Each cerebral hemisphere takes up certain of these more abstract powers. The left hemisphere is concerned with verbal and sequential processes, i.e., rational reasoning

and problem solving.

Cognito Ergo Sum

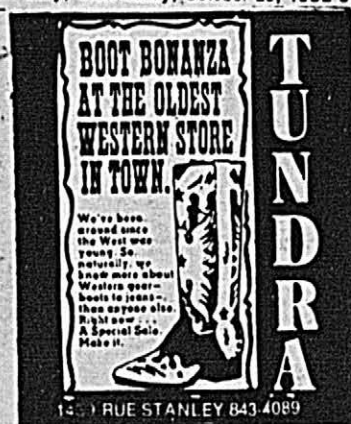
The right hemisphere is more 'spiritual'. It controls musical and artistic ability. It is responsible for visualising patterns and is more involved in emotion. Thus the left side, which also controls language, is more geometrical and analytical, whereas the right side is more intuitive.

The brain, with its complex activities, requires 25 percent of the body's oxygen supply, even though it represents only two percent of the body. Keeping the whole nervous system going requires a lot of energy and a rich blood supply. Deprive the brain of these essentials and it will die in a matter of minutes.

Brain activity varies between our alert and sleep states. At least 20 watts of power (about the power used by three portable radios) is needed during our conscious state.

The final work on the brain may never come. As a working hypothesis, most believe that consciousness, the ability of matter to know itself, is embed-

ded in the nerve tissue, and that through the actions of neurons we are able to think and have conscious cognance of our existence. □



An evening with an Israeli Political Journalist

***** MATTI GOLAN *****

** Author of the controversial book, "The Secret Conversations of Henry Kissinger, Step-by-Step Diplomacy in the Middle East."

** Matti is the chief diplomatic correspondent and columnist with Ha'aretz.

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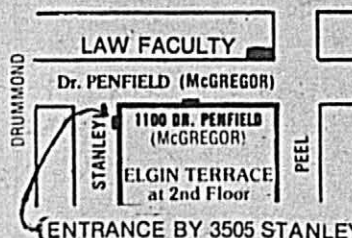
"The best souvlaki pita & plate in town — at 1981 prices!"

— 14 years of serving McGill —

- Full course meals
- Over 30 different kinds of sandwiches
- As well as full grocery choice of delicatessen, cold cuts, beer & wine.

Mon. - Sat.:
7:30 am - 10 pm

Sun.
10:30 am - 3 pm



McGILL REDMEN FOOTBALL FEVER

Catch it!



Friday, Oct. 22, 7:30 pm
Bishop's vs McGill
at Molson Stadium

Pick a Winner in Israel

KIBBUZ ULPAN
6 MONTH WORK - STUDY PROGRAMME

Meet the people of Israel
Become a part of the Kibbutz way of life.

Work half a day, study Hebrew half a day.
New Ulpanim starting every month.



For more information:

KIBBUZ
ALIYA DESK

Israel Youth Programme Centre
Cavendish Mall
5800 Cavendish Blvd.
Cole St. Luc, H4W 2T5
(514) 481-0218

YES

McGill Does Have a Yearbook !

BUT

We Need Your Grad Photo

SO

Get Down To Van Dyck Studio.

— ONLY 8 DAYS LEFT —

Today

Resource Centre

Needs staff and persons willing to complete our files on areas of specific interest and concern to students. Come up, from 12 to 3:30 to see how you can help— Room 433

McGill Choral Society

Rehearsal at 8:00pm in room C304 Strathcona Music Bldg. For more information contact Suzanne at 392-4367

Polish Students' Society

General Meeting today in Room B15 at 6:00pm.

Economics Students' Association

Today, from 2:00 to 5:00pm the ESA is hosting a wine and cheese party in Leacock 425.

Amateur Radio VE2UN

General meeting today in Union room 410 at 4:00pm. All interested are welcome.

Progressive Conservative Association

Meeting today at 7:00pm in Leacock 513.

Ski Team

General meeting in C.O.T.C. Lounge - Arthur Currie Gym. Dryland training immediately following.

Advertising Club

All members are welcome to tour the CFCF today. Meet at 1:50pm in Brontman at porters desk.

"Refuse the Cruise"

Project Ploughshares will have an information table in the Union building each noon all week. Tickets will be on sale for transport to the October 30 demo (in Ottawa) protesting the testing of the cruise missile in Canada.

Samouraï Karate Club

Bake sale in Union foyer from 11:00 - 12:00

German Students' Association

We invite you to yet another Kaffee Klatsch. Brontman 601 from 11-2. Free help also available from 12pm.

Anthropology Students' Association

Meeting at 12:15 in Leacock 720. Undergrad reps pick up notice from Dept.

Political Science Students' Association

Consul General of Israel (Yitschak Mayer) discussion guest. 12:00 in Leacock 12.

Outing Club

Open meeting at 7:30 in rm. 425 (Union). Elections for winter executive.

Circle K

General meeting at 7:45 in Union 108.

Amnesty International

General Meeting - Prof. Noumoff will speak on deportation. Union 310 at 3:00pm.

Deputy Returning Officers

Crucial meeting Union 425 at 4:00pm. If impossible leave a message for the CRO at the General Office.

Film Society

New membership lists are being compiled, if you wish to retain your membership it is important you attend the meeting in Union B01 at 6:00pm

Sociology Students' Association

Meeting today 12:00 - 1:00, Leacock 738.

Players' Theatre

Auditions for GOD OF VENGEANCE today from 4 - 6 and 7 - 9 in Union 308.

Cello Recital

Francois Malo, with Michael Woytiuk — works by Marcello, Beethoven, Fauré, Boccherini, Saint-Saens and Tchaikovsky. Music Recital Hall at 8:00pm

CULT MINI SERIES

"A Look at Cults: Realities and Misconceptions"
DISCUSSION WITH EX-MEMBERS OF CULT GROUPS

Wednesday, October 20

7:00 pm to 9:30 pm

Admission: Free

for further info. 845-9171



HILLEL

3460 STANLEY

DIRECTORS!!

Last chance to hand in proposals for the 3rd (February) production for Players Theatre, by Fri., Oct. 22 at 5:00 p.m. at Players, Rm 308 of the Union Bldg.

STUDENTS' SOCIETY APPLICATIONS

are hereby extended for the following appointed positions:

PROGRAM BOARD CHAIRPERSON

The Chairman of the Program Board is responsible for ensuring that the Board's functions are carried out. The Program Board is the coordinating body for Welcome Week, Winter Carnival, Red & White Revue, the Speakers Program and most major concerts on campus. These events are co-sponsored by the Dean of Students Office and the Students' Society.

STUDENTS' COUNCIL COMMITTEES

Food & Beverage Committee

Student-at-Large
(2 positions)

Executive Director Selection Committee

Student-at-Large
(1 position)

"General Application" forms are available from the Students' Society General Office, Room 105 of the Student Union, 3480 McTavish Street. Completed applications must be submitted to Leslie Copeland, Operations Secretary, Students' Society General Office, NO LATER THAN 4:30 P.M., THURSDAY, OCTOBER 21st, 1982.

Bruce M. Hicks
Chairman
Nominating Committee

Classified

Ads may be placed through the Daily Ad office, Room B17, Student Union Building, 9 a.m. to 5 p.m. We must have your ad by 11:30 a.m. in order for it to appear the next day.
 McGill students: \$2.00 per day. For 3 days, \$1.75 per day; more than 3 days, \$1.50 per day.
 McGill Faculty and staff: \$3.00 per day.
 All others: \$3.50 per day.
 The Daily reserves the right not to print a classified ad.

341 - APTS., ROOMS, HOUSING

Apartment to share with female (Americana Latina si posible, para intercambio de inglés y español), 6-1/2 furnished, \$150 including heat, 482-6661 after 9 p.m. weekdays, days weekends.

Simpson 3470: Roommate wanted to sublet sunny, luxurious 4-1/2 from Nov. w/ law student. Fully furn., sauna, pool, depantur. Close to Campus. Park nearby. \$300/m. 933-7C76.

Apartments to rent. 1575 Summerhill, five minute walk to school. Short term lease. Two bedrooms, \$370 per month. Water Tax included. 935-7274.

Immediate sublet in student's ghetto! 1-1/2 bright, clean, beautiful view. \$215 - water tax, heating, hot water included. Call 288-0543 on weekend 23-24 Oct.

2 minutes from campus. Available immediately. 5-1/2 apt. to share with female. \$252 a month. Pay reduced rent for remaining days. Phone Nancy at 845-9768 anytime.

2-1/2 Apartment to Sublet. Now 'til June 1983. 4221 l'Esplanade, No. 203. Beautiful location across from the mountain. Call after 7:00 p.m. 286-0302.

Apt. for Rent. 3-1/2, bright, balcony, bay windows. 5231 Park Ave. Phone 274-6219 (eve. & morn.) 392-4637, 392-4483 (day) ask for Victoria or leave a message.

343 - MOVERS

Moving done quickly and cheaply by student with large van. Call Stéphane, 845-1991.

350 - JOBS

Need a job? Need money? SRN Associates is looking for a sales rep for McGill campus. Call us: 481-4929.

352 - HELP WANTED

Amateur Entertainment sought for Downtown Restaurant-Bar. Cash prize to best performance. If interested in participating, call 274-9417, 1-5 p.m. or 933-7985.

Japanese-English bilinguals needed for short (1-hour) psycholinguistic experiment. Please call 392-4433 (9-5) and leave name and phone number.

354 - TYPING SERVICES

Quality Typing. I.B.M. Selectric. Meticulous care taken with your theses, term paper, resumes, etc. Downtown area. Rush rates available. 934-1455.

Typist available. For your term papers and assignments. Fast and accurate. \$1.00 per page, paper supplied. Pick up and delivery. Call Doreen at: 482-5539.

TYPING Fast and professional typing of term papers, theses, dissertations, resumes, letters. Good rates. Close to McGill campus. 288-7913.

Typist - Experienced, professional, accurate & fast. Term papers, manuscripts, letters, theses, resumes. Choice of element. Electric typewriter. Close to campus. Tel: 366-8454.

356 - SERVICES OFFERED

Visiting American Student with teaching experience, seeks position as children's tutor in partial exchange for learning French: Live-in (?); Salary negotiable; Going to London in 1982. Leave message at 487-2184. Jim Wahlig.

361 - ARTICLES FOR SALE

Computer for Sale Texas instruments. Includes rf-modulator, video chess command module, manuals and accessories. Purchased six months ago, hardly used. Original total cost \$625 plus tax. Asking \$400. Phone 365-8808 after six.

Aloe Vera Products. Complete Health and Beauty Care, for men & women, the Natural Way. Try our weight loss Nutritional Diet, Money-Back Guarantee - OR BE A DISTRIBUTOR. 4814 Bessborough, Ste. 1. Tel.: 484-1243.

For Sale: 10-speed bicycle (CCM); Pioneer 8-track tape player; Hitachi AM-FM digital clock-radio; canvas tent; bookshelf (5 ft. high-teak wood); hammock. Call: 931-6883.

Second year computer science books, Harvard Encyclopedia (in 21 vols.). Sofa set, 4 pieces. Bedroom set, coloured T.V. with stand, coffee table, dinner set, etc. Please phone mornings until 11 a.m. and after 7 p.m. 651-5118.

363 - TO GIVE AWAY

1 beautiful kitten to give away. Call after 6 p.m. 683-7881.

365 - WANTED TO BUY

VAN HALEN concert: one or two good tickets wanted. Call John at 259-3389 between 7:00 & 8:00 p.m., all day weekends.

370 - RIDES

Two people seeking ride to Ottawa on weekends. Would like to leave Friday evening and return on Sunday. Willing to share gas. Please call 286-0260 (evenings preferably).

372 - LOST & FOUND

Lost, purple wallet, sentimental value. If found, please contact 488-4088, 488-4830 Sharona.

Found on Pine Avenue between Dr. Penfield and McTavish, a gold bracelet. 285-9860.

Found 1 jacket in Gerts on Thurs. 10-14-82 - Call 286-0374.

374 - PERSONAL

DEAR A.A., "Wanting to turn you loose!" Please recommunicate as soon as possible. With my sincerest love, M.W.

To Darwin - How far is close? Donna (EMU)

M.E.I. ... Congrats on your 1st anniversary today. (S.M.) Hey! Let's go to Providence this weekend and see K.

BREAKAWAY WITH THE HOCKEY REDMEN



SAT., OCT. 23rd 7:30 pm
 McCONNELL WINTER STADIUM
 HAPPY HOUR 6 pm

Dave & Ken, I'll be at the D.U.'s "Tie One On" Party, Saturday night across from the gym. Miss you, Amy.

HAPPY ANNIVERSARY BRENDA - Thank You For Seven Great Ones. I Love You - Frank. P.S. - A-6-6-6-6.

383 - LESSONS OFFERED

If you need expert coaching in statistics, management statistics, biometry, psychometry, econometry or sociometry at reasonable price; contact Mr. Ajit (514) 656-6094 after 9 p.m.

Have you ever wanted to play piano, guitar, violin, trumpet, the gong, anything! We have fine, patient teachers at reasonable rates. Call M.U.S. 392-4367.

Vous êtes intéressés à des cours de piano, flute, guitare, etc... Plusieurs étudiants en musique donnent des cours à des prix raisonnables. Appeler M.U.S. 392-4367.

English Tutoring Service. Private tutoring sessions. "At home" tutoring available. Proofreading, English translations. 3465 Côte des Neiges, No. 52, Montreal. Tel.: 933-8106.

AEROBIC DANCE FITNESS classes now open in the Currie Gym Dance Studio. Monday & Wednesday, 10:00 a.m. - 11:00 a.m., 8 weeks, \$45.00 for full-time McGill students. \$56.00 for general public. To register call 272-2971.

Sign Language classes by Mackay Centre. Beginner, intermediate, Advanced I. \$40 for ten weeks; Starts week of October 31. Phone 482-0500. Larry Medwetsky.

385 - NOTICES

Enjoy people, dancing but you're not into disco? Why not try Modern Western Square Dancing. A Verdun club is starting classes this month. Info. 631-5288.

Life, is it falling apart around you? For living problems, try Emotions Anonymous, every Wednesday, 3484 Peel St., 3rd floor, 8:00 p.m.

Attention Students. Why go to the Hyatt Regency? Have Continental breakfast (1 egg, toast, coffee, home fries) \$1.00 at Johnny's Hide Away, 481 Sherbrooke W., next to the Hotel Sherbourg.

Caribbean Students: Donations of cakes and pastries are required for cake sale, Friday October 22nd. For information see notice in B15 or call Carol (286-9915).

International Students' Assoc. General elections 82/83. Oct. 22, 1982. Polls Union Bldg. B-15. All member organizations must submit their membership lists prior to day of election to C.R.O. Bahram Massoudi at Students' Society office. Please vote.

CLIP THIS AD

LET US PREPARE YOU FOR THE
 Dec. 4 LSAT
 OR THE
 JAN. 29 GMAT

- Each course consists of 20 hrs of instruction for only \$140.
- Courses are tax deductible
- Complete review of each section of each test.
- Extensive home study materials
- Your course may be repeated at no additional charge

Classes for the
 Dec. 4 LSAT in Montreal,
 Nov. 18, 20, 21 and for the
 Jan. 29 GMAT in Montreal,
 Jan. 7-9

To register call or write:
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 COURSES
 P.O. BOX 597, Station A
 TORONTO, ONT. M5W 1G7
 (416) 665-3377
 in Montreal call (514) 286-4005
 Course for the Dec. 11 GRE
 in Toronto Dec. 4, 5

COPING FOR COUPLES: Are you juggling grad school and a relationship? Problem solving and negotiation skills group designed specifically for you. Thursdays, 4-6 p.m., November 4th through November 25th, Powell Student Services Bldg. Room 205. Co-led by Emy Benjamin, Counselling Service and Chris Ferguson, Chaplaincy Services. Sign up: 392-5118.

Seeking willing female heads of hair to be cut by advanced student stylists for the minimal fee of \$5.00. Tuesday and Wednesday after 17:00 hours only. Estetica, 2195 Crescent. For appointment 849-9231.

Women 20-35 needed for study of female sexuality. Must be married, co-habiting, or celibate. Leave name, phone for Susan at 879-8023, 879-5999.

387 - VOLUNTEERS

The Yellow Door needs Volunteers to do visiting and accompaniment (to appointments) for elderly people in the McGill & downtown area. If interested, please call 392-6742.

Salon Ralph

Women's & Men's Hair Stylists

HIM

Shampoo,
 cut &
 blow-dry



\$10

with this ad

HER

Special:
 Perm
 \$18
 permanente



\$15

Shampoo,
 cut &
 blow-dry

(fermé samedi)

680 Sherbrooke W.
 (corner University)

844-9688

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Luggage, Briefcases & Schoolbags
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SPECIAL RATES FOR STUDENTS

With this ad.

All Kinds of Zipper Repairs

L'atelier du Sac à Main
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Tel. 842-3846

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Three locations to serve you:

1460 Sherbrooke W. (corner of Mackay)

842-3809

5016 Sherbrooke W. (near Claremont)

487-5131

Cavendish Mall, Côte St-Luc

482-8290

The Food Economy of Central America and the Caribbean

"Nicaragua: The Agrarian Reform and Basic Food Production."

Speaker: Jaime D'Avila Be, Councillor, Nicaraguan Embassy

Thursday, October 21, 12:00 noon

Centre for Developing Area Studies, MacDonald Harrington Building, Room C103E.

NEXT WEEK, OCT 25 - 29
 2 FOR 1 LUNCH SALE
 \$2.99



Chabad House
 3429 Peel

Don't hope for government reforms...

continued from page 3

there through writing letters to MP's," he said. "People need to take back the power they have acquiesced (to the government) over the years and start acting as if they have the power to say 'no'," he added.

Saying 'no' means taking non-violent, direct action and not entrusting government with the power to act on our behalf, said Shroeter.

The second speaker, Dimitri Roussopoulos, a member of the Union des Pacifistes du Québec started with a quote from the British social historian and peace activist, E.P. Thompson: "The point of politics is to act but to act with effect."

Roussopoulos warned of the fickleness of representative government. He cited the exam-

ple of the Kennedy government which bowed to the will of the 60's movement against atmospheric nuclear weapons testing, only to continue the testing underground.

The message of the two speakers was clear: Don't put faith in government reforms.

"It is not possible to change the defense and foreign policy of governments unless the major social and economic institutions of society change... they are a reflection of all domination," said Roussopoulos. "The peace movement is mar-

ried to a movement of fundamental change," he added.

Roussopoulos believes that the 'alternative' movements of the 70's emerged from the peace campaigns of the 60's and early 70's. Their commitment to fundamental change in the area of the environment, work, sex-roles, community control and the third world "has given rise with new massive strength to the peace movement," he said, citing the large variety of groups at the June 12 disarmament march in New York.

BREAKAWAY WITH THE HOCKEY REDMEN



SAT., OCT. 23rd 7:30 pm
McCONNELL WINTER STADIUM
HAPPY HOUR 6 pm



STUDENT LIAISON

WANTED: STUDENT REPS

We are in search of 20-30 reliable and committed students to return to their high school during Christmas vacation and talk to prospective students about campus life. The only requirements are that you went to high school in the U.S. or Canada (excluding Quebec) and that you'll be returning home during the holidays. Past participants have said they enjoyed it. Give it a try! For more information, call 392-8921 after 7 p.m. until Oct. 29.

TAKE ONE YEAR FOR YOURSELF - FOR ISRAEL

Information Evening:
Thursday, October 21, 7 to 9 pm

SHERUT LA'AM

One year or 6 months volunteer in a development town. Contribute your skills and experiences to the growth and development of Israel. Opportunities available in a wide variety of professions.

KIBBUTZ ULPAN

Six month programme. Work half a day - study Hebrew half a day. Become a part of the kibbutz way of life.

YESHIVOT

Torah study programmes for all levels. From beginner to advanced.

STAGIÈRE

One year. Live and work in Israel. Gain valuable experience in your field.

MARVA

3 or 6 months, combining Hebrew language course with physical fitness training and touring as well.

WUJS

Combining a Jewish & Hebrew study programme in Arad with volunteer work in a development town. For university graduates.

A YEAR OFF? - HARDLY!
THIS IS ONE YEAR
THAT WILL REALLY BE RIGHT ON!
ISRAEL PROGRAMME CENTRE
CAVENDISH MALL - 481-0218



McGill
University

McGill Program Board & Dean of Students Office

wish to thank the following for their help during
WELCOME WEEK '82

McGILL
PROGRAM
BOARD



EUS (the boys done good); ASUS; the DU's; LAMBDA CHI s; Imperial Tobacco; Jean Vallencourt de Labatt; Vince Colavincenzo; Nevine Youssef; Caroline Sablock; Kathy Wilson; Ralph Quirino; Alex Hyder; Barbra Wise; Nancy Adilman; Judith Neinsteln; Melissa

Phillips; Judith Hayes;

and also for all these people who gave their time and effort (we know who you are), there will be a free beer and cold-cuts party on Friday, Oct. 22 at 5 p.m. in Gert's II.

Jasmin Aquan Assee
Karen Francis
Gary Conway
Kate Eccles
Hirsh Bernstein
Ingl Khouzam
Johnny Cheung
Jura Benko
Enich Alleycat
Chris Richards
Frank Celenza
Paul Chaks
Robert Greene
Joan Oufresne
Karen Gunther
Steven Fuchs
Helena Koa
Michel Fox
Diane Kirkwood
Louise Morrisson
Ronald Hall
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Yona Shtern
Harold Wiesenfeld
Allan Wisener
Robert Krantzberg
Cathy Becker
Scott Blanchette
Marc Boulos
Allyson Anderson
Butch Trishman
Stephane Laberge
Sonia Meduesech
Sandle Hawkins
Sara Fonseca
Rich Delahunty
Ali Chaaban
Serge Jessler
Connie Marlatt
Cheryl Anderson
Pammy Adilman

Stephan Baker
Van Bennett
Louis Blumenfeld
Danny Blais
Amanda Brighton
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Myles Druckman
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Heather Faye
Meredith Fellowes
Bob Frederickson
Teresa Fay
Pierre Goyette
Cathy Goldstein
Loretta Galley
Kathy Graham
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Monica Kirk
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Marie Claire Legare
Linda Laurus
Debbie Miller
Celyne Menard
Erika McPhee
Marie Moorehead
Joanne Wemmers
Marc de Niverville
Melissa Phillips
John Schwerk
Karen Schell
Helen Steveson
Anick Vallquette
Kathy Wilson
Nevine Youssef
Joe Posteraro
Barney Laciak
Corinna Wojciechowski